

# Communicable Disease Report

Hawai'i Department of Health  
Communicable Disease Division

[http://www.state.hi.us/doh/resource/comm\\_dis/cdr.html](http://www.state.hi.us/doh/resource/comm_dis/cdr.html)

July/August 2002

## Summary of Communicable Disease Investigations and Outbreaks, Hawai'i - 2001

Hawai'i currently requires that health providers, health facilities and laboratories report 58 diseases or conditions, including events of bioterrorism to the Department of Health (DOH), Epidemiology Branch. Fifty-four are designated by the Council of State and Territorial Epidemiologists as nationally notifiable. Confirmed and probable or epidemiologically-linked cases are reported to the Centers for Disease Control and Prevention on a weekly basis. Tuberculosis, STDs, AIDS, HIV infections, Hansen's disease, and lead surveillance data are reportable to individual programs.

In calendar year 2001, Hawai'i's ten most frequently reported infectious diseases (in descending order) were chlamydia, influenza, campylobacter, gonorrhea, salmonellosis, dengue fever, tuberculosis, AIDS, pneumococcal disease and giardiasis. See Table 1 for the disease incidence for Hawai'i notifiable diseases between 1997 and 2001.

The Epidemiology Branch detected and investigated 74 outbreaks of infectious disease affecting 588 case-patients in 2001 (Tables 2 and 3). Summaries of investigations conducted in 2001 are included by reporting category.

### Fish Poisoning Incidents

Ciguatera poisoning accounted for 33 incidents. Recreationally caught fish accounted for 26 (79%) of these incidents; 4(12%) were purchased from a market; 2(6%) were purchased from a friend or fisherman and one was given to a party by a friend. See Table 4 for the variety of fish and the locations implicated in these incidents.

Twenty-two incidents were from scombroid poisoning: 16 were related to fish eaten in restaurants; 2 from lunch wagons, 2 from cafeterias and one from fish prepared at home. Three of the scombroid poisonings were related to imported fish products from Taiwan, Philippines and Fiji. Ahi and mahimahi were the fish primarily implicated in these incidents.

Consumption of home prepared weke (goatfish) caught off Waialua on O'ahu resulted in one incident of hallucinogenic fish poisoning.

### Foodborne Outbreaks

The Epidemiology Branch is in the third year of Enhanced Laboratory Capacity funding to conduct enhanced

food-borne disease surveillance in the Hawai'i. Two new surveillance systems have been implemented: Electronic Food-borne Outbreak Reporting System (EFORS) and the National Antimicrobial Resistance Monitoring System (NARMS). The Epidemiology Branch also initiated pulsed field gel electrophoresis (PFGE) data analysis in June 2001 which has enabled detection of several clusters that would previously have been viewed as unrelated cases.

The next four examples demonstrate the value of molecular subtyping techniques such as PFGE in epidemiological investigations.

1. Outbreak of *Salmonella weltevreden* Associated with a BBQ Fundraiser, Kailua-Kona, Hawai'i

Three individuals became ill with fever, diarrhea, chills and abdominal cramps after consuming BBQ pork ribs from a fundraiser. The fundraiser was held on April 14, 2001. Individuals became ill on 4/15/01, 18 - 21 hours after eating. Two of the three individuals were hospitalized at Kona Community Hospital.

The meal was prepared by a restaurant in Kailua-Kona and packed by members

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of the club. None of the club members who packed the meal was ill with diarrhea. Approximately 290 orders were picked up and only three cases were identified. There were similar fundraisers utilizing this restaurant with no complaints received either by the DOH or the restaurant. No other *Salmonella weltevreden* were isolated on the island of Hawai'i during this time period.

It was difficult to locate those who picked up and ate the BBQ pork ribs because it was a fundraiser. No additional cases could be identified. The Sanitation Branch assisted in the follow up at the restaurant. The source of the outbreak could not be determined. *Salmonella weltevreden* was isolated from the three individuals and leftovers from one of the ill individuals. Two of the three cases were a husband and wife and the third case was not related. The only common meal was the BBQ pork ribs.

### 2. *S. typhimurium* Infection Associated with a Daycare Provider

The Virginia Department of Health PulseNet site reported an increase of *Salmonella typhimurium* DT 104. Two Hawai'i isolates had pulse field gel patterns that were indistinguishable from the Virginia patterns. This information

triggered an investigation to determine if the Hawai'i isolates were also *S. typhimurium* DT 104. Both Hawai'i isolates had identical antibiograms; both were resistant to ampicillin and sensitive to trimethoprim/sulphamethoxazole and ciprofloxacin. Onset dates for the two cases were August 10 and 11, 2001. Case interviews revealed that the cases attended the same home daycare; however the daycare provider was unable to recall food items served to the two children. No common link to the Virginia cases was identified and the Hawai'i isolates were not DT 104. The implicated Hawai'i daycare provider is no longer licensed to provide childcare services.

### 3. *Escherichia coli* O157:H7 Associated with the State Farm Fair Petting Zoo

A cluster of laboratory confirmed *E. coli* O157:H7 cases were reported between August 22 and September 4, 2001. Epidemiological investigation of these cases revealed a possible association with the 2001 State Farm Fair, held at the Aloha Stadium. Three cases had attended the farm fair during their exposure period. PFGE analysis of these patient isolates confirmed a common source exposure with the State Farm Fair petting zoo.

### 4. Increased *Salmonella typhimurium*

There was a 56% increase in reported *Salmonella typhimurium* from 2000 to 2001. PFGE analysis identified clonal patterns in 69% of *S. typhimurium* isolates with culture dates from 1/24/01 to 12/4/01. Investigation of reported cases revealed that 30% were active duty military or military dependents; however, case study follow-up did not identify a common source.

5. Outbreak of *Staphylococcus aureus* associated with kalua pig {Hawaiian roast pig}, Hilo, Hawai'i

On September 13, 2001, the Emergency Department of Hilo Medical Center reported suspected food poisoning in eight individuals. Those persons reported having eaten hot meals from a native Hawaiian elderly services project. This non-profit organization in Hilo serves the elderly Hawaiian population a daily congregate meal and limited home-delivered meal service. The program served a hot meal prepared by the implicated restaurant.


Questionnaires were distributed to all those who had eaten but only 30 of 64 (47%) were returned. 21 of the 30 became ill after eating the suspected meal (attack rate 70%). Individuals began experiencing symptoms of diarrhea, vomiting and abdominal cramps from .75 to 3.5 hours after eating the meal. Duration of illness varied but the median was 24 hours. Illness occurred in individuals who ate at the restaurant as well as those who had the home-delivered meals. Statistical analysis was inconclusive due to the small number of questionnaires returned.

Leftover kalua pig was tested and found to have 4,300,000 *Staphylococcus aureus* per gram. PFGE demonstrated that isolates obtained from the kalua pig and three isolates from ill individuals were identical. The DOH Sanitation Branch followed up with the restaurant; the cook provided information on the preparation of the kalua pig. No time/temperature abuse was identified. However, the large numbers of *Staphylococcus aureus* found in the kalua pig suggested mishandling, but the exact point in the process was not identified.

6. Probable Outbreak of *Staphylococcus aureus* Associated with Take-Out Chinese Foods, Waianae, Hawaii

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On September 19, 2001 the DOH received a call from a North Shore Health Center physician of a possible foodborne illness in individuals who had eaten take-out Chinese food items at home on September 18, 2001. The case patient was seen and hospitalized on September 19, 2001 for nausea, vomiting, diarrhea and dehydration. The case-patient's three year old granddaughter was seen by an emergency department of a local hospital, treated for dehydration and released a few hours later. A total of five persons reported illness after eating the food items.

The items were prepared early in the morning and picked up from a downtown Honolulu restaurant and driven to the North Shore on the same day. The items made for this event were chow funn (noodles - dry), 18 manapua (dim-sum steamed buns), 2 dozen pork hash, and 1-quart of roast pork. One homemade dish (chicken adobo) was also served along with steamed rice.

The hospitalized patient reported consuming pork hash and chow funn noodles. Of those who only ate manapua leftovers, none became ill. Only those persons who ate the chow funn noodles and/or pork hash became ill. No clinical specimens were available for testing, although clinical symptoms were compatible with *Staphylococcal* enteritis. The incubation period ranged from 3-4 hours.

Three specimens from leftover food items were submitted to the State laboratory on September 9/20/01. The laboratory results appear below.

a. Pork hash (refrigerated) grew moderate amounts of gram positive cocci and gram positive rods, 1,200/g; and was negative for toxins.

b. Char siu (refrigerated) grew rare gram positive cocci, 67/g; and was negative for toxins.

c. Chow Funn noodles (refrigerated) grew a moderate amount of gram positive rods, numerous gram positive cocci, 200,000,000/g; the food quantity available was not sufficient for toxin assays.

No deficiencies in the process of the chow funn noodle preparation were detected. Although there were *Staphylococcus aureus* bacteria found on the noodles, isolation of the organisms did not necessarily implicate that food item since not all *Staphylococcus aureus* isolates produce toxin. However, the epidemiological evidence lends support that the noodles were the most likely vehicle for this illness.

### 7. Probable Foodborne Outbreak Associated with Two Separate Take-out Turkey Food Items from the Same Restaurant, O'ahu

On March 8, 2001 the Epidemiology Branch received a food complaint regarding illness after eating turkey wraps (take-out) from a local restaurant. Three individuals (2 co-workers and 1 spouse) became ill with vomiting, diarrhea, fever, abdominal cramps {Incident A}. A second incident was subsequently reported by a medical facility that arranged a weekly meeting for a local women's health clinic attended by several physicians and staff. Similar symptoms by most of the attendees who ate turkey sandwiches made for the meeting on March 6, 200 were reported {Incident B}. Those persons who did not eat the turkey club did not become ill. No specimens were collected, and no leftover turkey was left to test for pathogens. The clinical symptoms were compatible with a *Campylobacter* or *Salmonella* infection. No further illnesses were reported.

Incubation times for both incidents were similar (Incident A was 51 hours and incident B was 49 hours); symptoms experienced by the parties were also similar. The turkey made for the items implicated was made by one restaurant. The Sanitation Branch was alerted to the separate incidents and performed a review of the

procedures used to cook and prepare the roast turkey.

The Sanitation Branch determined that whole turkeys were used and that the practices did not allow for adequate cooling time/temperatures. No soap for the hand sinks was noted and employees did not wash their hands nor change gloves between tasks. The handling of the turkey suggested inadequate cooling temperatures, so that the risk for contamination and hence pathogen growth would be increased given the lack of hand soap and unhygienic practices of those preparing the foods.

The restaurant was instructed to handle the turkeys in a manner so that the turkey meat was cooled-down and stored more efficiently. The restaurant staff was also instructed to wash and sanitize alfalfa sprouts prior to use in sandwiches and salads, to change gloves and to wash hands between each task.

Epidemiological evidence supported the conclusion that the illnesses in both incidents occurred as a result of eating food items containing turkey prepared by restaurant A. Although no food items or clinical specimens were available for testing, the symptoms of both parties and the resulting deficiencies found in the preparation of the turkey at restaurant A suggested that this outbreak was due to the turkey.

## Vaccine Preventable Diseases

The Epidemiology Branch investigates suspected cases of vaccine preventable diseases in Hawai'i. A summary of investigations for each individual disease appears in Table 5 and the Influenza strains identified are depicted in Figure 1.

Imported Case of Congenital Rubella from Micronesia, O'ahu

On December 13, 2001, the Epidemiology Branch received a Clinical Laboratories of Hawai'i report for rubella. The

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patient was a four-month old male and a resident of the Marshall Islands. Based on the age of the patient and the anomalies reported by the physician (hearing loss, microcephaly, and an abnormal brain scan) a congenital rubella investigation was initiated. The patient was admitted to Kapiolani Medical Center for Women and Children on 11/1/01 directly from the Marshall Islands. Laboratory confirmation of rubella IgM (6.77) collected on 11/2/01; IgG (3.74) and a second IgM (3.74) collected on 12/7/01 confirmed the clinical diagnosis. The physician did not test the mother for rubella antibodies. Efforts to locate the family following discharge from the hospital were unsuccessful.

### Influenza/Respiratory Illness Surveillance

#### 1. Elementary School Outbreak of Influenza A, O'ahu

On February 13, 2001, the East Honolulu Public Health Nursing Office alerted the DOH of a 10-percent absentee rate at an elementary school. Active surveillance was initiated and specimen collection kits were delivered to school's health room for obtaining throat/nasal swabs from acute probable cases. The fourth grade reported the highest absentee rate of 20% (17/76). Symptoms included mild fever, coughing, and headache. Four specimens were collected between February 20 and 22nd.

On March 15th, the state laboratory confirmed influenza A isolation in one specimen. Attendance had returned to normal at the elementary school. Final lab results confirmed two of the four specimens as influenza A/New Caledonia/20/99-like.

#### 2. Confirmed Outbreak of Influenza B in a Nursing Home, O'ahu

On April 6, 2001, the Epidemiology Branch received a call from the administrator of a 75-bed skilled nursing care home facility located in central O'ahu, reporting influenza activity among 24 residents. The outbreak had already peaked and subsided over a period of twelve days. The onset of the earliest recorded case was on 3-26-2001 and reached a peak on 4-3-2001 with eight reported cases.

Rapid test results from a commercial laboratory identified two patients with influenza A/B antigen. The specimens were forwarded to the State Laboratories (SLD) for confirmation. One of three specimens submitted was positive for influenza B. The investigation was concluded on April 9, 2001 with a total of 25 cases. No deaths occurred as a result of the outbreak.

#### 3. Outbreak of Influenza B in a Private School, O'ahu

On May 8 2001, the Epidemiology Branch was notified by a private school health aide of an increasing number of absentees and students being sent to the health room with "flu-like" symptoms. The majority of ill students presented with moderate to high fever, coughing, body aches, and sore throat. The DOH provided collection kits to student health and specimens were transported to the State Laboratory on May 11th, 2001.

Four of the five specimens collected were identified as influenza B. The investigation was concluded on June 4, 2001. A total of 152 communicable disease reports were completed. On July 18, 2001 CDC confirmed the strain as B/Hong Kong/22/2001-like in three of four positive cultures.

#### 4. Outbreak of Influenza B in an Elementary School, Mililani, O'ahu

On May 14, the health aide at an elementary school in Mililani alerted the DOH of a 19-percent (24/126) absentee rate for

the fifth grade. Sample calling by the school staff confirmed that respiratory illness was the reason for absence. Active surveillance was initiated to identify additional cases.

Respiratory specimen collection kits were delivered to the health room to obtain throat/nasal swabs from acute cases. One specimen from an 11-year-old was collected the same day and sent to SLD for viral isolation. The school nurse aide confirmed on May 21st that the absentee rate had returned to normal and that no other grades were affected.

The SLD reported on June 7 that influenza B was isolated from the only specimen submitted. Since the isolate did not match with any currently circulating influenza B strains in Hawai'i, the isolate was forwarded to the CDC for further antigenic characterization. On August 3, the CDC confirmed the strain type as B/Hong Kong/22/2001-like.

#### 5. Nursing Home Outbreak of Influenza A, O'ahu

On September 18, 2001, the Epidemiology Branch received a call from an infection control practitioner about five nursing home residents who demonstrated influenza-like symptoms beginning September 13, 2001; symptoms included chest congestion and fever. Specimens were collected on these patients and submitted to the SLD for testing. Cases were limited to one floor in the home. Only one staff member reported illness. The nursing home provided antiviral medication for the residents and collected specimens from new case-patients; no others became ill. No deaths were reported.

Approximately 90% of the nursing home residents were vaccinated and 70% of the staff of the facility. No source was identified. On October 1st, the SLD confirmed that two of the five specimens were identified as influenza A. The influenza isolates were not sub-typed.

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### Zoonoses Summary

In 2001, there were 38 cases of leptospirosis diagnosed, although there are many patient samples from suspected case-patients pending confirmatory serologic testing at the Centers for Disease Control and Prevention. There were three cases of murine typhus diagnosed on Maui, three cases of brucellosis diagnosed on the island of Hawai'i, and three residents evaluated for rabies exposure to rabid animals outside the State (New Mexico, Philippines, and Palmyra Island).

### Dengue Fever

Between June through December 2001, 113 cases of autochthonous dengue fever were diagnosed in the state. There were 86 cases from Maui, 23 from O'ahu and four from Kaua'i. This was the first documented outbreak of dengue fever in Hawai'i in over 50 years. There were no fatalities.

In addition, there were 36 cases of imported dengue fever diagnosed in residents returning from overseas travel. Fourteen cases were from O'ahu, five from Maui, four from Hawai'i, two from Kaua'i, and two were in transit to other locations. Exposures occurred in the Society Islands (17), American and Western Samoa (10), the Philippines (6), Indonesia (1), Thailand (1), and Vietnam (1).

The Vector Control Branch conducted an extensive mosquito control program including insecticide spraying around the homes of those tested for the disease. The outbreak continued into calendar year 2002.

### Hepatitis Section

The Hepatitis Control Section investigates reports of acute and chronic hepatitis

of viral origin. Immune globulin and vaccine are offered to contacts of acute cases of hepatitis A and to contacts of acute cases and chronic carriers of hepatitis B.

#### Hepatitis B

The Hepatitis B Perinatal Program identified 187 infants born to carrier mothers in the year 2001. 183 received HBIG (97.9%) and 137 (74%) completed the three dose vaccine series. Ninety-six percent of the infants that had post-vaccine serology at one year of age showed immunity to hepatitis B.

The hepatitis B high-risk program registered 4722 individuals. Overall, this was about a 1% decrease from 2000. However, prison inmates had a forty percent (40%) increase over the year 2000. Twenty-eight percent of those tested for serological markers to hepatitis B showed evidence of exposure to the virus, 28% were susceptible, and 8% were chronic carriers. Of the 1065 individuals who were susceptible to virus infection, 918 (86.2%) started the vaccine series.

Twenty cases of acute hepatitis B were reported including fifteen males and five females. Sixteen cases were reported on Oahu, three on Maui, and one on the Big Island.

#### Hepatitis A

Of the twenty-three cases of hepatitis A that were reported, only 18 met the CDC case definition. One case was reported on Hawai'i, one on Maui, one on Kaua'i, and 15 cases reported on O'ahu. Seven cases were imported and eleven were considered indigenous.

#### Hepatitis C

Hepatitis C has been a reportable disease since October, 1997. Physicians and laboratories reported 1376 cases of chronic hepatitis C in 2001, a decrease from the 1516 cases reported in 2000.

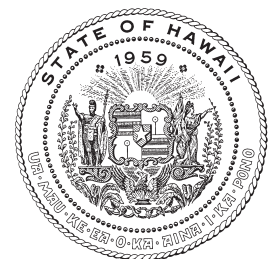
### Other Investigations

Outbreak of Norwalk-like Viral Gastroenteritis on a Cruise Ship

On January 13, 2001, DOH was notified of a possible foodborne outbreak aboard a Hawai'i-based cruise ship (a typical cruise lasts seven days and the ship normally spends one to two days in ports on O'ahu, Kaua'i, Maui, and the Big Island). On January 16 and 17 2001, DOH staff flew to Lahaina, Maui and Kona, Hawai'i respectively, to meet the ship and initiated an investigation. After reviewing the ship's medical logs, interviews were conducted with 33 crew members and 10 passengers who had seen the ship's medical officer complaining of vomiting and/or diarrhea between January 3 - 17, 2001. Patients reported a mean duration of illness of 29 hours.

Seven clinical specimens were obtained; analysis of those specimens identified the causative agent as a Norwalk-like virus (Snow Mountain-Like virus). Further investigation revealed a total of 35 crew and 50 passengers who required medical attention for vomiting and/or diarrhea during the month of January. The mode of transmission for this outbreak was not identified. The cruise ship has since gone out of business.

*Submitted by the staff of the Investigation and Hepatitis sections and the Zoonoses Program, of the Epidemiology Branch.*



**Table. 1. 5-Year Summary of Notifiable Diseases, Hawai'i 1997 – 2001**

DISEASE/YEAR	1997	1998	1999	2000	2001	5-YR MEAN	5-YR MEDIAN
Total Resident Population July 1st est., 1997-2001 <sup>1</sup>	1,211,640	1,215,233	1,210,300	1,212,281	1,224,398		
	NO. OF CASES	NO. OF CASES	NO. OF CASES	NO. OF CASES	NO. OF CASES		
AIDS	99	163	103	108	133	121	108
AMEBIASIS *	22	14	23	33	26	24	23
ANTHRAX	0	0	0	0	0	0	0
BOTULISM, FOODBORNE	0	0	0	0	0	0	0
BOTULISM, INFANT	2	0	0	2	2	1	2
BRUCELLOSIS	3	0	2	1	3	2	2
CAMPYLOBACTERIOSIS *	823	622	884	834	755	784	823
CHEMICAL *	0	0	0	0	0	0	0
CHLAMYDIA	1798	2603	3167	3541	4037	3029	3167
CHOLERA	0	1	1	0	0	0	0
COCCIDIOIDOMYCOSIS	7	N/R	N/R	N/R	N/R	N/R	N/R
CONJUNCTIVITIS, INFECTIOUS *	128	N/R	N/R	N/R	N/R	N/R	N/R
CRYPTOSPORIDIOSIS	1	3	0	0	3	1	1
DENGUE FEVER *	8	6	1	0	153	34	6
DIPHTHERIA	0	0	0	0	0	0	0
<i>E. COLI</i> 0157:H7	11	19	15	14	22	16	15
ENTEROCOCCUS, VANCOMYCIN RESISTANT*	2	103	102	93	93	79	93
FILARIASIS	1	1	1	1	0	1	1
FISH POISONING, CIGUATERA *	57	69	43	37	59	53	57
FISH POISONING, SCOMBROID *	35	36	41	53	66	46	41
GASTROENTERITIS, FOODBORNE	67(OUTBKS)	74(OUTBKS)	27(OUTBKS)	9(OUTBKS)	12(OUTBKS)	N/A	N/A
GIARDIASIS *	162	123	117	105	118	125	118
GONORRHEA	507	506	463	446	605	505	506
<i>HAEMOPHILUS INFLUENZA</i> (invasive disease)	8	10	15	25	23	16	15
HALLUCINOGENIC FISH POISONING *	0	6	0	2	1	2	1
HANSEN'S DISEASE	26	19	22	15	24	21	22
HANTAVIRUS	0	0	0	0	0	0	0
HEMOLYTIC UREMIC SYNDROME	0	0	0	0	0	0	0
HEPATITIS A	148	54	24	19	17	52	24
HEPATITIS B (ACUTE)	11	18	16	13	22	16	16
HEPATITIS C	182	54	0	2	0	48	2
HEPATITIS non-A, non-B	0	0	0	0	0	0	0
INFLUENZA *(& Infl-Like Illness)	1051	1323	985	503	980	968	985
KAWASAKI DISEASE *	0	N/R	N/R	N/R	N/R	N/R	N/R
LEGIONELLOSIS	2	1	1	1	5	2	1
LEPTOSPIROSIS *	60	47	52	25	16	40	47
LISTERIOSIS *	5	6	7	4	6	6	6
LYME DISEASE*	0	N/R	N/R	N/R	N/R	N/R	N/R
MALARIA	13	9	12	10	13	11	12
MEASLES	6	1	2	6	8	5	6
MENINGITIS, ASEPTIC & VIRAL *	17	N/R	N/R	N/R	N/R	N/R	N/R
MENINGITIS, H. Influenza	0	0	0	0	0	0	0
MENINGITIS, MENINGOCOCCAL	7	5	10	8	13	9	8
MENINGITIS, OTHER *	4	N/R	N/R	N/R	N/R	N/R	N/R
MUMPS	27	26	16	23	42	27	26
PELVIC INFLAMMATORY DISEASE [PID]	43	N/R	N/R	N/R	16	30	30
PERTUSSIS	19	26	51	41	42	36	41
PLAGUE	0	0	0	0	0	0	0
PNEUMOCOCCAL DISEASE *	52	81	61	160	120	95	81
POLIOMYELITIS	0	0	0	0	0	0	0
PSITTACOSIS	0	0	0	0	0	0	0
RABIES	0	0	0	0	0	0	0
RUBELLA (GERMAN MEASLES)	9	2	0	0	2	3	2
RUBELLA, CONGENITAL	0	0	0	0	1	0	0
SALMONELLOSIS	387	295	338	237	356	323	338
SHIGELLOSIS	65	51	35	38	59	50	51
STREPTOCOCCAL INFECTIONS u	106	35	28	37	89	59	37
SYPHILIS, PRIMARY & SECONDARY	1	4	3	2	12	4	3
SYPHILIS, EARLY LATENT	0	0	3	3	7	3	3
SYPHILIS, LATENT & LATE LATENT	41	11	6	6	23	17	11
TETANUS	0	0	0	0	0	0	0
TOXIC SHOCK SYNDROME(STREP) u	0	N/R	N/R	N/R	0	N/A	N/A
TOXOPLASMOSIS *	0	1	2	2	22	5	2
TRICHINOSIS	0	0	0	1	0	0	0
TUBERCULOSIS	167	181	184	136	151	164	167
TYPHOID FEVER	7	4	0	6	3	4	4
TYPHUS, MURINE *	3	10	2	5	4	5	4
VARICELLA ZOSTER (CHICKENPOX) *	278	N/R	N/R	N/R	N/R	N/R	N/R
VIBRIOSIS *	16	14	14	18	15	15	15
YELLOW FEVER	0	0	0	0	0	0	0
YERSINIOSIS *	17	7	10	7	10	10	10

<sup>1</sup> Population Estimates Programs, Population Division, U.S. Bureau of the Census, Washington DC 20233. 2001, Population Data.

\* A non-notifiable disease or condition but for which the Centers for Disease Control & Prevention and the Hawai'i Department of Health maintain surveillance.

<sup>u</sup> Non-pharyngitis / group A invasive beta-hemolytic strep and Toxic Shock Syndrome (strep) due to strep.

N/R: Stands for Not-notifiable / Reportable

**Table 2. Summary of Disease Investigations<sup>1</sup>  
Logged by the Epidemiology Branch, Hawai'i –2001**

Category of Disease	NUMBER OF INVESTIGATIONS BY COUNTY				TOTAL
	HAWAI'I	KAUA'I	MAUI (Moloka'i, Lana'i)	O'AHU	ALL ISLANDS
Investigations (Total)	80	74	90	406	650
All Food Poisoning Complaints	44	33	57	175	309
Ciguatera Fish Poisoning <sup>2</sup>	4	16	7	6	33
Scombroid Fish Poisoning <sup>4</sup>	0	4	1	17	22
Hallucinogenic Fish <sup>5</sup> Poisoning	0	0	0	1	1
Vaccine Preventable Disease	6	13	8	109	136
Zoonoses	22	9	11	19	61
Vectorborne Disease	4	7	3	24	38
Other	4	12	11	79	106

<sup>1</sup> Source: EPILOG 2001 Disease Investigations Tracking System. This database reflects ALL investigations initiated by the Epidemiology Branch regardless of final diagnosis and disposition.

<sup>2,4,5</sup> Ciguatera, Scombroid and Hallucinogenic fish poisoning cases are coded as food poisoning complaints and are included in the food-borne illness complaint totals.

**Table 3. Summary Table of Communicable Disease Outbreaks, Hawai'i – 2001**

DISEASE and STATUS of INVESTIGATION	MODE OF TRANSMISSION	# Outbreaks By County	Setting	No. of cases
Dengue fever — confirmed	Vector-borne	(O'ahu, Maui, Kaua'i) - 1	Various	153
Gastroenteritis — confirmed <i>Salmonella weltevreden</i>	Food-borne	Hawai'i — 1	Restaurant	3
Gastroenteritis — confirmed <i>Staphylococcus aureus</i>	Food-borne	Hawai'i — 1	Restaurant	21
Gastroenteritis — probable: (etiologic agent undetermined; probable vehicle turkey)	Food-borne	O'ahu-2	Restaurant	8 3
Gastroenteritis — probable <i>Staphylococcus aureus</i> ; noodles / pork hash	Food-borne	O'ahu- 1	Restaurant take-out	5
Gastroenteritis — probable <i>Campylobacter jejuni</i>	Food-borne	O'ahu — 1	Restaurant	2
Gastroenteritis — probable (etiologic agent undetermined)	Food-borne	Hawai'i — 0	-	9
		Kaua'i -4	Restaurant	2
			Restaurant	2
			Restaurant	2
		Maui — 0	-	-
		O'ahu-2	Restaurant	6
			Restaurant	19
		(6)		(42)
Gastroenteritis — viral	Undetermined	O'ahu-1	Cruise ship	38
Influenza A - Confirmed	Person-to-person	O'ahu — 2	School Nursing Home	4 5
Influenza B — Confirmed	Person-to-person	O'ahu — 3	Nursing Home School (2)	25 154
Scombroid Fish Poisoning	Food-borne	Hawai'i — 0 Kaua'i — 4 Maui — 1 O'ahu — 17 (21)	Various	0 9 2 54 (65)
Ciguatera Fish Poisoning	Food-borne	Hawai'i - 4 Kaua'i — 16 Maui — 7 O'ahu — 9 (33)	Various	7 27 14 11 (59)
Hallucinogenic Fish Poisoning	Food-borne	Hawai'i — 0 Kaua'i — 0 Maui - 0 O'ahu — 1 (1)	Weke — caught Waialua	1
<b>TOTAL</b>		<b>74</b>		<b>588</b>

**Table 4. List of Implicated Fish Types in Ciguatera Fish Poisoning Incidents by Island and Location of Catch Site, Hawai'i – 2001**

Island/City of Incident	City/location of catch site of fish	Fish
<b>Hawai'i</b>		
Honokaa	Unknown catch site	Palani
Kamuela	Purchased from a vendor	Papio
Kailua-Kona	Keauhou Boat Harbor	Weke
Kailua-Kona	Honokohau	Wahanui
<b>Kaua'i</b>		
Hanalei	Unknown catch site	Reef fish unk
Kekaha	Napali coast	Roi
Kapaa	Anini	Ulua
Anahola	Princeville	Kole
Hanapepe	Unknown catch site	Ulua
Koloa	North shore	Kole
Kapaa	Anini	Ulua
Waimea	Princeville	Kole
Lihue	Princeville	Kole
Kapaa	Princeville	Kole
Kapaa	Lumahai	Omilo
Kapaa	Aliomanu	Manini
Eleele	North Shore	Roi
Kapaa	Princeville	Kole
Waimea	Unknown catch site	Papio
Hanapepe	Unknown catch site	Roi
<b>Maui (includes Moloka'i)</b>		
Moloka'i	Moloka'i	Mullet
Wailuku	Paia	Unkown fish type
Lahaina	Moloka'i	Unknown fish type
Kahului	Waiehu beach	Eel
Haliimaile	Unknown catch site	Uku
Kihei	Unknown catch site	Weke
Wailuku	Unknown catch site	Weke
<b>O'ahu</b>		
Honolulu	Palau	Kala
Wahiawa	Kona coast	Roi
Honolulu	Campbell Industrial Park	Mullet
Wahiawa	Chinatown market	Weke
Waipahu	Chinatown market	Roi
Wahiawa	North Shore	Kole

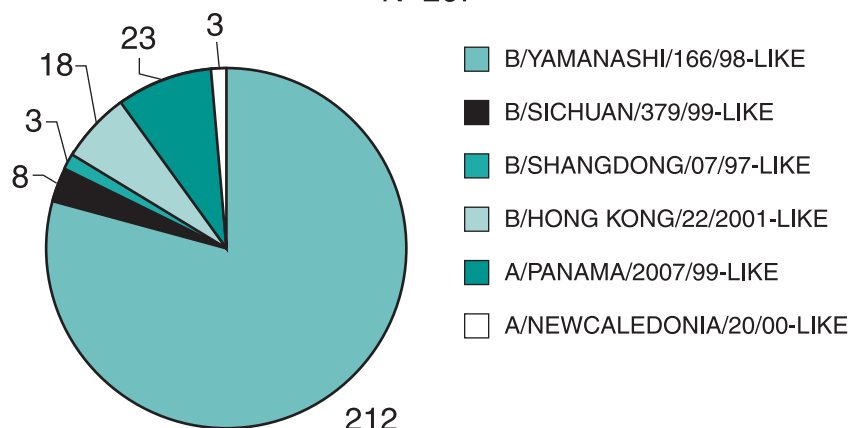


**Table 5. Vaccine Preventable Disease Investigations by Island and Final Diagnosis**

DISEASE	Hawai'i	Kaua'i	Maui	O' ahu	Total: All Islands
Diphtheria	0	0	0	0	0
Measles	1- ruled out/ viral exanthem	2	1- ruled out/viral exanthem	18- 6 confirmed (3 imported Japan; 3 Indigenous) 1 probable (imported Japan) 11 Rule outs	22
Mumps	0	1 — possible	3 — 1 confirmed (Lanai) 2 possible	45- 18 confirmed (10 imp., 8 ind) 22 probable (15 imp, 7 ind) 5 rule outs	49
Pertussis	5- 1 imported 4-indigenous all confirmed	10 2 probable 8 possible	3- 2 confirmed 1 probable	38- 6 confirmed (indigenous) 16 probable (1 imported, mainland US) 16 upper respiratory illness, other	56
Polio	0	0	0	0	0
Rubella	0	0	1- imported California	7- 1 probable (indigenous) 2 possible 4 rule outs	8
Congenital Rubella	0	0	0	1 imported Marshall Islands	1
Tetanus	0	0	0	0	0
<b>TOTAL VPD Investigations</b>	<b>6</b>	<b>13</b>	<b>8</b>	<b>109</b>	<b>136</b>

## 2001 Influenza Strain Types Identified

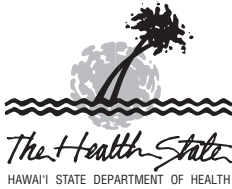
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# Communicable Disease Report

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**July/August 2002**

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